UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,443	07/07/2003	Joachim Jauert	P03,0223	7531

			EXAMINER
26574	7590	01/13/2005	STEPHENS, JUANITA DIONNE

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ART UNIT	PAPER NUMBER
2853	

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	**Applicant(s)**
Office Action Summary	10/614,443	JAUERT, JOACHIM
	Examiner	**Art Unit**	
	Juanita D. Stephens	2853	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>2</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*Application filed 7/7/03*</u>.
2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.
3)☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☐ Claim(s) _____ is/are rejected.
7)☒ Claim(s) *1-12* is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>*07 July 2003*</u> is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
        1.☐ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____.
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/1/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1.   The disclosure is objected to because of the following informalities:

In the "Related Application" section of the specification, lines 3 and 4 delete

"(Attorney Docket No. P03,0219)" and "(Attorney Docket No. P03,0159)", respectively.

Replace the   attorney docket numbers with the filing date and application number is

known.

Appropriate correction is required.

Claim Objections

2.   Claims 1-12 are objected to because of the following informalities:

In claim 1, line 11 before "DMA", insert –Direct Memory Access--.

In claim 4, line 18 delete "and said evaluation unit".

In claim 5, line 2 before "DMA", insert –Direct Memory Access--.

Appropriate correction is required.

Allowable Subject Matter

3.   Claims 1-12 would be allowed after correction as identified in the "claim

objection" section is made.

4.   The following is a statement of reasons for the indication of allowable subject

matter:

The prior art does not teach, suggest, or render obvious the combination of an

encoder that generates encoder pulses dependent on a relative movement between

said print medium and said printhead having a print data controller comprising an

evaluation unit and logic for reducing printer errors in printing by said printhead on said print medium, said logic being supplied with said encoder pulses and containing a resettable encoder clock counter having a count value that is incremented by respective leading edges of said encoder pulses and that is decremented with each start of each of said print cycles, said count value being supplied by said logic to said evaluation unit and said evaluation unit determining whether said count value exceeds a reference value and causing a current print cycle to be aborted if said reference value is upwardly transgressed under the condition that all direct memory access cycles to said pixel memory for preparing a next print cycle have ended, recited in claim 4. This invention solves the problem of reducing printer error while printing on a print medium.

The prior art does not teach, suggest, or render obvious the combination of generating encoder pulses representing relative motion between said printhead and said print medium, generating a counter count by incrementation and decrementation to identify an occurrence of a reduced time spacing between successive encoder pulses from a memory wherein binary pixel data are stored in a plurality of data strings, implementing a direct memory access in the time segment with DMA cycles for one of said data strings, and implementing a print cycle for said one of said data strings to print data with said printhead, represented by said on of said data strings, on said print medium and during said print cycle, implementing a further direct memory access in another time segment with DMA cycles from said memory for a next of said data strings to be printed and following implementation of said further direct memory access for said next of said data strings and dependent on said time spacing for a plurality of

successive encoder pulses, completely executing said print cycle as long as an average

value of an encoder period of said plurality of successive encoder pulses does not

downwardly transgress a predetermined duration of said print cycle, and aborting said

print cycle if said counter count indicates said reduced time spacing, recited in claim 1.

This invention solves the problem of reducing printer error while printing on a print

medium.

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

The prior art of Eade et al. (US 6,302,514 B1) discloses a printing arrangement

(Fig. 1) which provide automatic self correction by measuring the time intervals of two

encoder periods and measuring the difference between the two intervals and if the

difference between the previous two periods is greater than a preset maximum, the

correction logic will limit the new encoder time to the old encoder time, plus or minus the

preset limit, wherein any significantly large errors in critical edges of the encoder signals

can be temporarily ignored for the firs pulse calculation of the next encoder period, **but**

does not disclose an encoder that generates encoder pulses dependent on a relative

movement between said print medium and said printhead having a print data controller

comprising an evaluation unit and logic for reducing printer errors in printing by said

printhead on said print medium, said logic being supplied with said encoder pulses and

containing a resettable encoder clock counter having a count value that is incremented

by respective leading edges of said encoder pulses and that is decremented with each

start of each of said print cycles, said count value being supplied by said logic to said

evaluation unit and said evaluation unit determining whether said count value exceeds

a reference value and causing a current print cycle to be aborted if said reference value

is upwardly transgressed under the condition that all direct memory access cycles to

said pixel memory for preparing a next print cycle have ended.

Contact Information

6.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Juanita D. Stephens whose telephone number is (571)

272-2153. The examiner can normally be reached on Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Juanita D. Stephens
Primary Examiner
Art Unit 2853

January 7, 2005